

REMARKS

Applicants have amended claim 1 by incorporating the restriction that the stainless steel comprises from 20 to 50 weight % of Cr. This is based upon the subject matter in original claim 4. Applicants have also deleted this subject matter from original claim 4. It is respectfully submitted the revised claims add no new subject matter to the specification and will necessitate no further search on the part of the examiner. It is respectfully submitted the revised claims are in good order for entry into the specification and the same is respectfully solicited.

The examiner has rejected the claims formerly on file pursuant to 35 U.S.C. §103 (a) as being unpatentable over JP 55-141545. Applicants respectfully traverse the examiner's objection.

The application of 35 U.S.C. §103 to the issue of patentability has been considered by the Supreme Court of the United States in *Graham v. John Deere* 148 USPQ 459. The Supreme Court held that 35 U.S.C. §103 requires a three-pronged inquiry. It is necessary to:

- (i) determine the knowledge disclosed in the prior art;
- (ii) determine the differences between the teaching of the prior art and the claims at issue; and
- (iii) resolve the differences between the teaching of the prior art and the claims in question on the level of the ordinary skill in the art field.

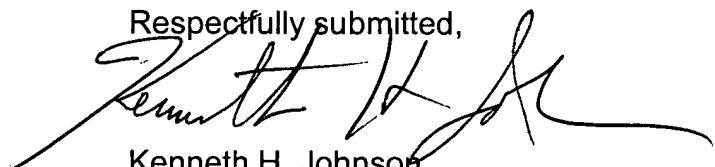
The applied reference teaches a spinel coating of the formula MnCr₂O₄ having a thickness of 50 nanometers (0.05 microns) on a stainless steel substrate having a nickel content of less than or equal to 1.5 weight % to reduce corrosion of the stainless steel.

The claims presently under consideration incorporate all of the limitations in claim 1. The claims teach a spinel coating of the formula MnCr₂O₄ having a thickness of from 1 to 10 microns on the surface of a stainless steel substrate having a nickel content from 20 to 50 weight % to reduce coke formation on the stainless steel.

The stainless steel of the applied reference is a low nickel steel while the steels of the present invention are high nickel steels. There is nothing in the reference which suggests or teaches the steel could or should have a high nickel content. The thickness of the spinel surface of the claims presently under consideration is from 0.1 to 10 microns (i.e. 100 to 10,000 nanometers). At a minimum this is twice as thick as the 50 nanometer coating of the applied reference. There is nothing in the applied reference which teaches going to a thicker coating. Finally the applied reference teaches corrosion resistance. There is no teaching or suggestion that the surface may have improved resistance to coking. Coking would not be considered by one skilled in the art to be the same or substantially equivalent to corrosion. In short to get from the teaching of the prior art to the subject matter of the claims presently under consideration one of ordinary skill in the art would have to switch from a low nickel steel to a high nickel stainless steel, at least double the thickness of the coating and finally not use the surface for corrosion reduction but for reduction of coking. There is nothing in the applied references which teaches or suggests these types of changes. Given the level of skill of the ordinary practitioner in the art the changes to be made to the teaching of the applied reference of a corrosion resistant surface to get a surface more resistance to coke make are not obvious. This is also supported by the

passage of time from the publication of the applied reference of 1980 to the filing of the present case in 2000 a time span of 20 years. In view of the foregoing it is respectfully submitted the subject matter of the claims presently under consideration has inventive height (distinction from) and merit (unobviousness) over the teaching of the applied reference. It is respectfully submitted the revised claims are novel and inventive and in good order for allowance and the same is respectfully solicited

Respectfully submitted,



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